



NLM's Online Playground: K-12 Health & Science Information Resources for Teachers & Students

CAROLYN MARTIN, MLS, AHIP
CONSUMER HEALTH COORDINATOR
NATIONAL NETWORK OF LIBRARIES OF MEDICINE
PACIFIC NORTHWEST REGION
MARTINC4@UW.EDU

Introduction

Medicine/Health

**Environmental
Health**

Genomics/Genetics

Interdisciplinary

Career Information

Who We Are

NIH

- **National Institutes of Health**
- Nation's research agency
- 27 institutes and offices

NLM

- **National Library of Medicine**
- World's largest biomedical library

NNLM

- **National Network of Libraries of Medicine**
- Program of the NLM comprised of 8 Regional Libraries (RMLs) and 5 offices

PNR

- **Pacific Northwest Region (NNLM PNR)**
- Is one of the 8 RMLs
- Serves Alaska, Idaho, Montana, Oregon, Washington



The mission of NNLM is to advance the progress of medicine and improve the public health by:

- Providing all U.S. health professionals with equal access to biomedical information
- Improving the public's access to information to enable them to make informed decisions about their health

U.S. Department of Health & Human Services www.hhs.gov

Outreach Activities & Resources

SPECIALIZED INFORMATION SERVICES

National Library of Medicine
National Institutes of Health
NLM

SIS Home | About Us | A-Z Index | SIS News | Contact Us Search This Site

SIS Home > Outreach Activities & Resources > Students and Educators Share Text size: S M L XL Expand/Collapse

Outreach Projects

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Resource & Tools

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About Us

- [Outreach & Special Populations Branch](#)
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- [Specialized Information Services Division](#)
- [Staff Publications](#)

Announcements

[See the Outreach Blog for the latest news!](#)

[Connect with NLM](#)

K-12 Science and Health Education

Working with teachers and scientific experts to provide FREE reliable resources to help introduce, reinforce, and supplement education programs.

- Get the latest news!
- Biology
- Careers
- Disasters
- Environmental Health Science/Chemistry
- Forensics and Medical Technology
- Games
- General Health
- Genetics
- Health Information Tutorials
- HIV/AIDS
- Lesson Plans
- Projects
- Spanish-Language Resources

PDF documents can be viewed with the free [Adobe® Reader](#)

NLM K-12 Resources

<https://sis.nlm.nih.gov/outreach/k12.html>

Medicine/Health

The screenshot shows the MedlinePlus website with several elements highlighted by red boxes:

- Search Bar:** A search bar with the text "Search MedlinePlus" and a "GO" button.
- Navigation:** Links for "About MedlinePlus", "Site Map", "FAQs", and "Customer Support".
- Language:** A red circle highlights the "Español" link in the top right navigation area.
- Health Topics:** A red box highlights the "Health Topics" section, which includes "Find information on health, wellness, disorders and conditions".
- Drugs & Supplements:** A red box highlights the "Drugs & Supplements" section, which includes "Learn about prescription drugs, over-the-counter medicines, herbs, and supplements".
- Videos & Tools:** A red box highlights the "Videos & Tools" section, which includes "Discover tutorials, health and surgery videos, games, and quizzes".
- Lab Test Information:** A red box highlights the "Lab Test Information" section, which includes "Learn why your doctor orders laboratory tests and what the results may mean".
- Medical Encyclopedia:** A red box highlights the "Medical Encyclopedia" section, which includes "Articles and images for diseases, symptoms, tests, treatments".
- Share MedlinePlus:** Social media sharing icons for Facebook, Twitter, and Google+.
- Foodborne illness:** A featured article titled "Foodborne illness is in the news. Learn what you need to know." with a navigation bar (1, 2, 3, 4, >).
- Tweets by @MedlinePlus:** A red circle highlights the "Tweets by @MedlinePlus" section, which includes a tweet from @medlineplus about handwashing.
- Stay Connected:** A sign-up form for "MedlinePlus email updates" with an "Enter email address" field and a "GO" button.
- NIH MedlinePlus Magazine:** A red box highlights a featured article for the "NIH MedlinePlus Magazine" with the text "Read the latest issue" and an image of a magazine cover.
- Clinical Trials:** A red circle highlights the "Clinical Trials" section, which includes the text "Search ClinicalTrials.gov for drug and treatment studies."

- Links to reliable, authoritative health websites
- Health Topics on children/teens
- Easy-to-read articles
- Medical dictionary
- Medical encyclopedia
- Links to local services
- English, Spanish and other languages
- No Advertisements!

[MedlinePlus](https://medlineplus.gov/)

<https://medlineplus.gov/>

Health Topics



Read about symptoms, causes, treatment and prevention for over 1000 diseases, illnesses, health conditions and wellness issues. MedlinePlus health topics are regularly reviewed, and links are updated daily.

Find topics A-Z

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [XYZ](#) [List of All Topics](#)

Body Location/Systems

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-  [Bones, Joints and Muscles](#)
-  [Brain and Nerves](#)
-  [Digestive System](#)
-  [Ear, Nose and Throat](#)
-  [Endocrine System](#)
-  [Eyes and Vision](#)
-  [Immune System](#)
-  [Kidneys and Urinary System](#)
-  [Lungs and Breathing](#)
-  [Mouth and Teeth](#)
-  [Skin, Hair and Nails](#)
-  [Female Reproductive System](#)
-  [Male Reproductive System](#)

Disorders and Conditions

- [Cancers](#)
- [Diabetes Mellitus](#)
- [Genetics/Birth Defects](#)
- [Infections](#)
- [Injuries and Wounds](#)
- [Mental Health and Behavior](#)
- [Metabolic Problems](#)
- [Poisoning, Toxicology, Environmental Health](#)
- [Pregnancy and Reproduction](#)
- [Substance Abuse Problems](#)

Diagnosis and Therapy

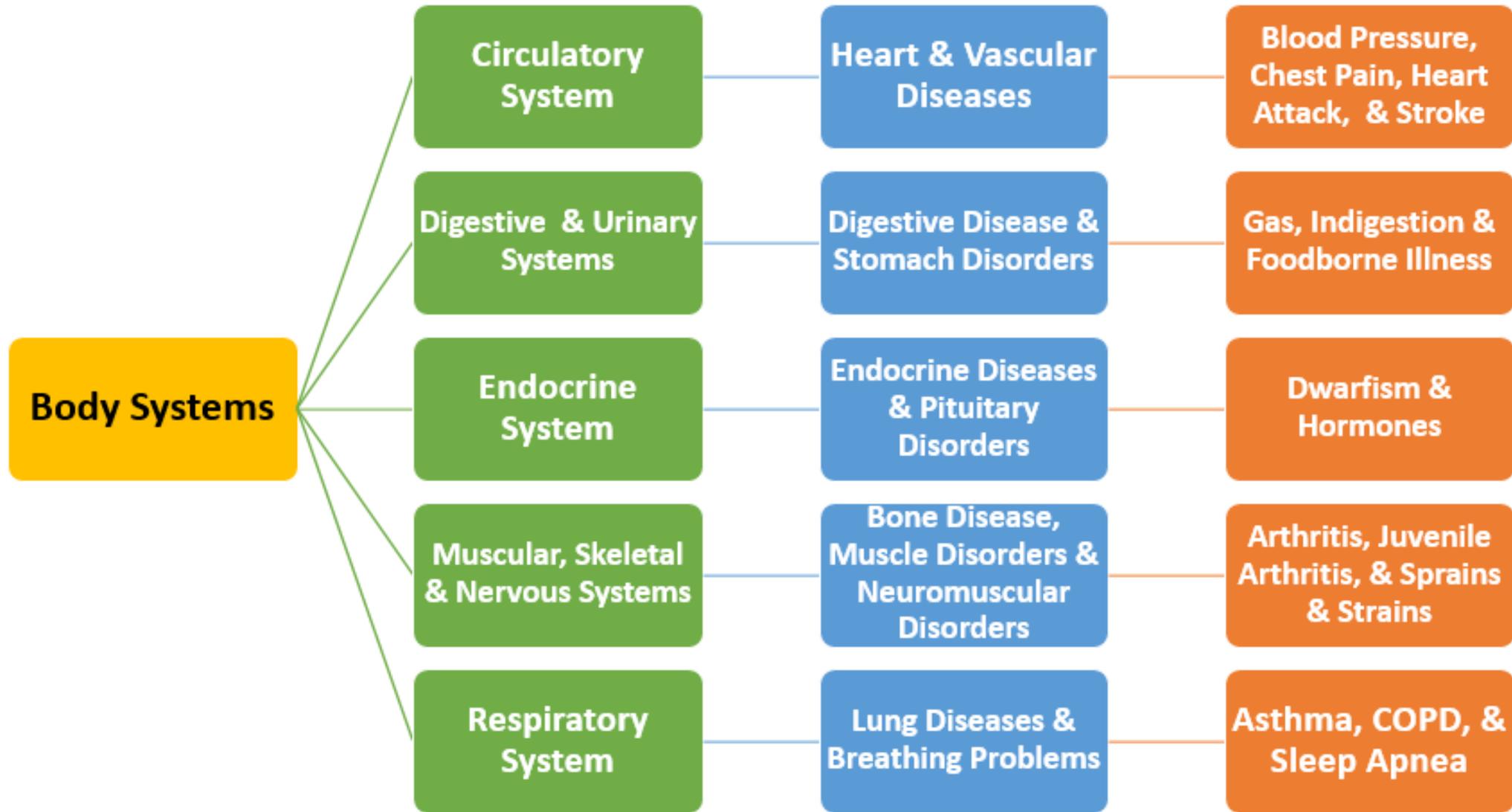
- [Complementary and Alternative Therapies](#)
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Demographic Groups

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Health and Wellness

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- [Sexual Health Issues](#)
- [Social/Family Issues](#)
- [Wellness and Lifestyle](#)





Search MedlinePlus

GO

You can help prevent infections by taking your HIV/AIDS medicines. Other things that can help include practicing safe sex, washing your hands well and often, and cooking your food thoroughly.

Related Health Topics

Health Topics Drugs & Supplements Vaccines

Home → Health Topics → HIV/AIDS and Infections

HIV/AIDS and Infections

Also called: AIDS-related opportunistic infections, OIs

On this page

Basics

- Summary
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- Prevention and Risk Factors
- Treatments and Therapies

Learn More

- Related Issues
- Specifics

Research

- Statistics and Research
- Clinical Trials
- Journal Articles

Resources

- Reference Desk
- Find an Expert

Summary

Having HIV/AIDS weakens your body's immune system. This puts you at risk for opportunistic infections that take advantage of your weak immune system. These infections can be serious for people with HIV/AIDS.

There are many types of OIs:

- Bacterial infections, including tuberculosis and a complex (MAC)
- Viral infections, such as cytomegalovirus (CMV) and toxoplasmosis
- Fungal infections, like yeast infections, cryptococcal (PCP) and histoplasmosis
- Parasitic infections, such as crypto (cryptosporidiosis)

Having HIV/AIDS can make infections harder to treat. People with HIV/AIDS can have complications from common illnesses such as the flu.

Start Here

- Opportunistic Infections (Centers for Disease Control and Prevention)
- Opportunistic Infections (AIDS.gov)

Prevention and Risk Factors

- Food Safety for People with HIV/AIDS (Food and Drug Administration)
- HIV and Immunizations (NIH) (AIDSinfo) Also in Spanish
- Preventing Opportunistic Infections in HIV (Beyond the Basics) (University of Michigan)
- Sex and Prevention Concerns for Positive People (Project Inform)

Treatments and Therapies

- HIV/AIDS Medicines: MedlinePlus Health Topic (NIH) (National Library of Medicine) Also in Spanish

Related Issues

- Neurological Complications of AIDS (NIH) (National Institute of Neurological Disorders and Stroke) Also in Spanish

Specifics

- HIV and Rheumatic Disease (American College of Rheumatology) Also in Spanish
- HIV and Viral Hepatitis (Centers for Disease Control and Prevention) - PDF
- HIV/AIDS and Fungal Infections (Centers for Disease Control and Prevention)
- HIV/AIDS and the Flu (Centers for Disease Control and Prevention)
- HIV/AIDS Coinfection (Hepatitis B Foundation)
- Mouth Problems and HIV (NIH) (National Institute of Dental and Craniofacial Research) Also in Spanish
- Mycobacterium Avium Complex (MAC) (New Mexico AIDS Education and Prevention Center) Also in Spanish
- Pneumocystis Infections: MedlinePlus Health Topic (NIH) (National Library of Medicine) Also in Spanish
- Progressive Multifocal Leukoencephalopathy (NIH) (National Institute of Neurological Disorders and Stroke) Also in Spanish

Statistics and Research

- HIV-Associated TB: Facts 2013 (World Health Organization) - PDF

Clinical Trials

- ClinicalTrials.gov: AIDS-Related Opportunistic Infections (NIH) (National Institutes of Health)

Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: A qualitative evaluation of an implementation study for cryptococcal antigen...
- Article: Rapid urine-based screening for tuberculosis in HIV-positive patients admitted to...
- Article: Cryptococcus neoformans Meningoencephalitis.
- HIV/AIDS and Infections -- see more articles

Reference Desk

- AIDSinfo Glossary (NIH) (AIDSinfo) Also in Spanish

Find an Expert

- AIDS.gov
- AIDSinfo (NIH) (Department of Health and Human Services) Also in Spanish
- Centers for Disease Control and Prevention Also in Spanish
- NIAID Division of AIDS (NIH) (National Institute of Allergy and Infectious Diseases)

Patient Handouts

- Cryptococcosis (Medical Encyclopedia) Also in Spanish
- Pneumocystis jiroveci pneumonia (Medical Encyclopedia) Also in Spanish
- Progressive multifocal leukoencephalopathy (Medical Encyclopedia) Also in Spanish
- Tuberculosis Facts - TB and HIV/AIDS (Centers for Disease Control and Prevention) - PDF



Health Topics Drugs & Supplements

Home → Health Topics → Anatomy

Anatomy

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Summary

Anatomy is the science that studies the structure, descriptions and pictures of the human body's parts.

Start Here

- Anatomy & Physiology (National Cancer Institute)
- Body Basics (Nemours Foundation)
- Introduction to the Human Body (National Library of Medicine)
- Visible Human Project (National Library of Medicine)

Related Issues

- Inside the Cell (National Institute of General Medical Sciences)
- Life and Death of a Neuron (National Institute of Neurological Disorders and Stroke)
- Proteins Are the Body's Worker Molecules



Health Topics Drugs & Supplements Videos & Tools

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Blood

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Summary

Your blood is made up of liquid and solids. The liquid part, called plasma, is mostly water. Over half of your blood is plasma. The solid part of your blood is made up of red blood cells, white blood cells, and platelets.

Red blood cells (RBC) deliver oxygen from your lungs to your tissues. White blood cells (WBC) fight infection and are part of your immune system. Platelets help stop bleeding from a cut or wound. Bone marrow, the spongy material inside your bones, constantly makes new red blood cells. Red blood cells live for about 120 days. Some white blood cells live less than a day, but others live for years.

There are four blood types: A, B, AB, or O. Also, blood is either Rh positive or Rh negative. If you have type A blood, it's either A positive or A negative. Which type you have depends on your parents' blood types. And your Rh factor could be important if you are pregnant. If you have type A blood and your partner has type B blood, your baby's blood type could be A, B, AB, or O. If you have type A blood and your partner has type O blood, your baby's blood type could be A or O. If you have type B blood and your partner has type A blood, your baby's blood type could be A, B, AB, or O. If you have type B blood and your partner has type B blood, your baby's blood type could be B or AB. If you have type AB blood and your partner has type O blood, your baby's blood type could be A or B. If you have type AB blood and your partner has type A blood, your baby's blood type could be A or AB. If you have type AB blood and your partner has type B blood, your baby's blood type could be B or AB. If you have type AB blood and your partner has type AB blood, your baby's blood type could be A, B, AB, or O.

Blood tests such as [blood count tests](#) help doctors check for certain conditions. Blood tests can also help check the function of your organs and show how well treatments are working. Blood tests may include [bleeding disorders](#), [excessive clotting](#) and [platelet disorders](#). If you have a blood disorder, you may need a transfusion.



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Health Topics Drugs & Supplements Videos & Tools

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Home → Health Topics → Gas

Gas

Also called: Belch, Burp, Eructation, Flatulence, Flatus

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Summary

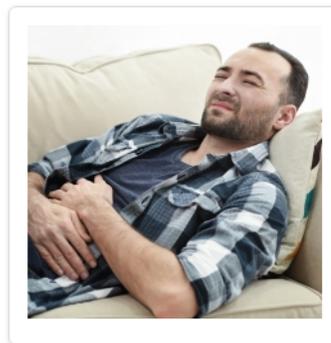
Everyone has gas. Most people pass gas 13 to 21 times a day. Passing gas through the mouth is called belching or burping. Passing gas through the anus is called flatulence. Most of the time gas does not have an odor. The odor comes from bacteria in the large intestine that release small amounts of gases that contain sulfur.

Gas in the digestive tract comes from two sources: air that you swallow and the breakdown of undigested food by bacteria in the large intestine. Certain foods may cause gas. Foods that produce gas in one person may not cause gas in another.

You can reduce the amount of gas you have by

- Drinking lots of water and non-fizzy drinks
- Eating more slowly so you swallow less air when you eat
- Avoiding milk products if you have [lactose intolerance](#)

Medicines can help reduce gas or the pain and bloating caused by gas. If your symptoms still bother you, see your health care provider.



Get Gas updates by email

- MEDICAL ENCYCLOPEDIA**
- [Abdominal bloating](#)
 - [Belching](#)
 - [Bland diet](#)
 - [Gas - flatulence](#)

[Related Health Topics](#)



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Home → Health Topics → Asthma in Children

Asthma in Children

Also called: Childhood asthma

On this page

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See, Play and Learn

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Summary

Asthma is a chronic disease that affects your airways. Your airways are tubes that carry air in a of your lungs. If you have asthma, the inside walls of your airways become sore and swollen.

In the United States, about 20 million people have asthma. Nearly 9 million of them are children. Children have smaller airways than adults, which makes asthma especially serious for them. Children with asthma may experience wheezing, coughing, chest tightness, and trouble breathing, especially in the morning or at night.

Many things can cause asthma, including

- Allergens - mold, pollen, animals
- Irritants - cigarette smoke, air pollution
- Weather - cold air, changes in weather

Visit the **LUNGTROPOLIS PARENTS' SITE**

Become an Asthma Control Agent!

New to the program? Register to become a new agent.

Join Now!

Don't want to register yet? You can still play but you won't be able to save your progress.

Go Now

Log in to play!

Username

Password

Forgot your password? [Click here.](#)

Enter

- [Asthma - control drugs](#)
- [Asthma - quick-relief drugs](#)
- [Asthma - what to ask your doctor](#)

NLM Drug information

NLM DRUG INFORMATION RESOURCES

DRUG INFORMATION PORTAL

Home > Drug Information

Drug Information from the National Library of Medicine

- Drug Information Portal**

The Portal provides users a comprehensive gateway to information on over 53,000 substances (over 200,000 unique searchable drug names and their synonyms) not only from NLM but also from other U.S. government agencies. It covers drugs from the time they are entered into clinical trials through their entry into the U.S. marketplace. The Drug Portal touches on all related information resources at NLM to provide for a comprehensive view. It is intended as a "middle ground" resource which includes information for the consumer, health professionals, and researchers.
- Drugs, Herbs and Supplements**

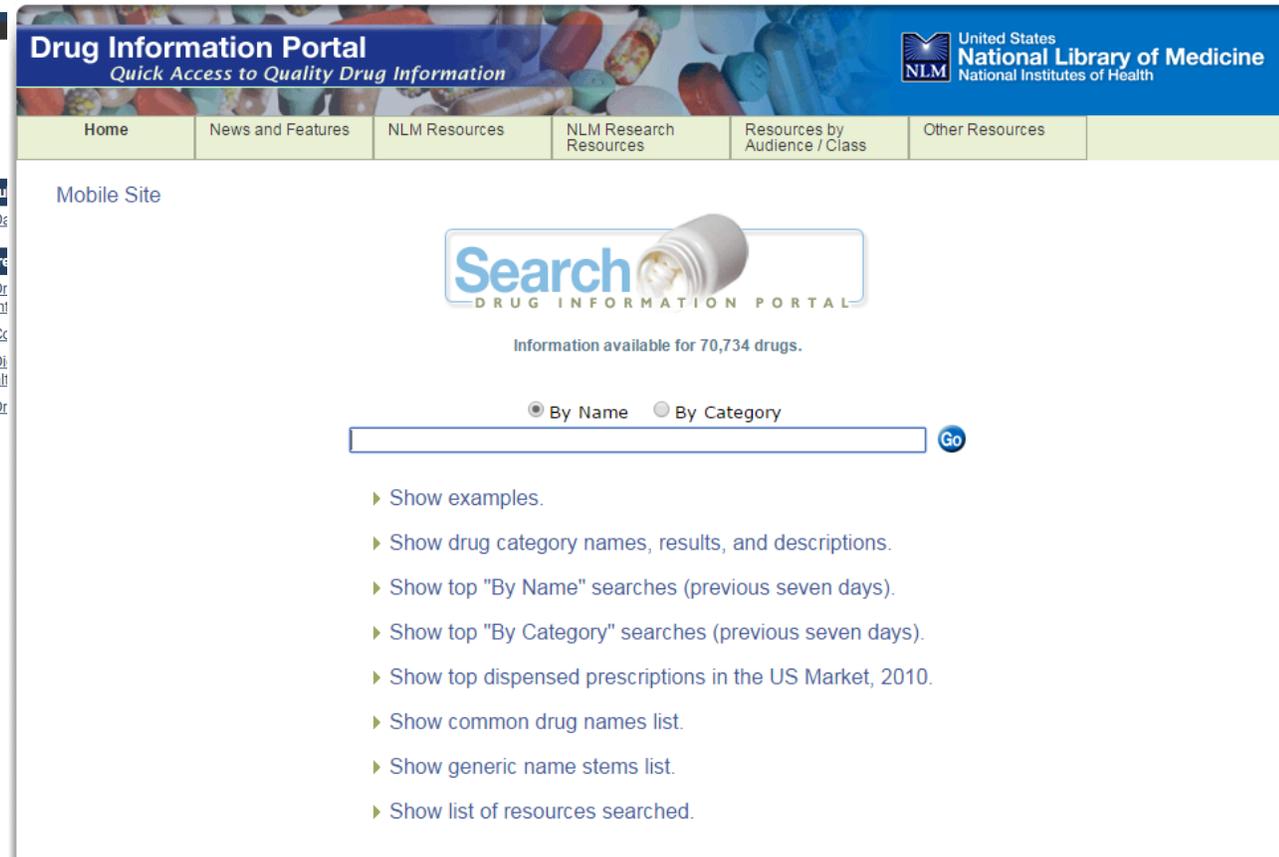
Learn about your prescription drugs and over-the-counter medicines from MedlinePlus, the National Institutes of Health's Web site for patients and their families and friends. Read about side effects, dosage, special precautions, and more. Browse dietary supplements and herbal remedies to learn about their effectiveness, usual dosage, and drug interactions.
- Pillbox**

Developed to aid in the identification of unknown solid dosage pharmaceuticals, Pillbox combines high-resolution images of tablets and capsules with appearance information (imprint, shape, color, etc.). It enables users to identify solid dosage forms based on physical criteria: imprint (characters or number printed on a medication), shape, color, size, and scoring. Users are shown thumbnail images of possible matches. These images are continually updated as the user enters additional information. Pillbox is designed for use by emergency physicians, first responders, other health care providers, Poison Control Center staff, and concerned citizens.
- DailyMed**

DailyMed provides information about marketed drugs, including FDA labels (package inserts). It provides health information providers and the public with a standard, comprehensive, up-to-date, look-up and download resource of medication content and labeling as found in medication package inserts.
- Dietary Supplement Label Database (DSLDB)**

The database links you to the information from the labels of over 30,000 dietary supplement products in the marketplace, including vitamins, minerals, herbs or other botanicals, amino acids, and other specialty supplements. It includes name, form, active and inactive ingredients, amount of active ingredient, manufacturer/distributor information, label claims, warnings, percentage of daily value, and additional label information. The database can be searched by product names, text terms found on product labels, specific dietary ingredients, and manufacturers.
- RxNorm**

RxNorm provides normalized names for clinical drugs and links its names to many of the drug vocabularies commonly used in pharmacy management and drug interaction software, including those of First Databank, Micromedex, MediSpan, Gold Standard Alchemy, and Multum. By providing links between these vocabularies, RxNorm can mediate messages between systems not using the same software and vocabulary. RxNorm files are available through the NLM download server.



Drug Information Portal
Quick Access to Quality Drug Information

United States National Library of Medicine
National Institutes of Health

Home | News and Features | NLM Resources | NLM Research Resources | Resources by Audience / Class | Other Resources

Mobile Site

Search
DRUG INFORMATION PORTAL

Information available for 70,734 drugs.

By Name By Category

- ▶ Show examples.
- ▶ Show drug category names, results, and descriptions.
- ▶ Show top "By Name" searches (previous seven days).
- ▶ Show top "By Category" searches (previous seven days).
- ▶ Show top dispensed prescriptions in the US Market, 2010.
- ▶ Show common drug names list.
- ▶ Show generic name stems list.
- ▶ Show list of resources searched.

NIH Supplements Information

OFFICE OF DIETARY SUPPLEMENTS

NATIONAL CENTER FOR COMPLEMENTARY AND INTEGRATIVE HEALTH

U.S. Department of Health & Human Services National Institutes of Health

NIH National Institutes of Health
Office of Dietary Supplements

Strengthening Knowledge and Understanding of Dietary Supplements

Font Size - +

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Health Information News & Events For Researchers About ODS

DIETARY SUPPLEMENTS: WHAT YOU NEED TO KNOW

ODS experts are featured in this 2-minute video introduction to the Office of Dietary Supplements.

1 2 3 4 5

Dietary Supplement Fact Sheets

The Office of Dietary Supplements (ODS) fact sheets give a current overview of individual vitamins, minerals and other dietary supplements. ODS has fact sheets in two versions—Health Professional and Consumer. Both versions provide the same types of information but vary in the level of detail. Consumer versions are also available in Spanish. [more](#)

General Information

- > Dictionary
- > Background Information
- > Botanical Dietary Supplements
- > Full List of Fact Sheets
- > Frequently Asked Questions
- > ODS Videos
- > Información en español [more](#)

Featured Dietary Supplement Fact Sheets

Omega-3 Fatty Acids
Omega-3s are found in foods such as fatty fish and shellfish.

Choline
Many foods contain choline, including mushrooms.

Health Information

- > Frequently Asked Questions (FAQ)
- > Dietary Supplements: What You Need to Know
- > Dictionary
- > Información en español [more](#)

News & Events

HEADLINES

- > **New Dietary Supplement Information Page for Health Professionals** [more](#)

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NIH...Turning Discovery Into Health

Información en Español

Health Info Research Grants & Funding Training News & Events About NCCIH

Health

All Health Topics from A-Z
Research-based info from acupuncture to zinc.

Complementary, Alternative, or Integrative Health
What do these terms mean?

Be Informed
Learn how to make wise health decisions.

Herbs at a Glance
Uses and side effects of herbs and botanicals.

How To Find a Practitioner
Information on seeking treatment.

Information for Health Care Providers
Evidence-based medicine, continuing education, clinical practice guidelines, and more.

Featured Health Topics

- Seasonal Allergies (Allergic Rhinitis) (March 2017)
- Complementary Health Practices for U.S. Military, Veterans, and Families (February 2017)
- Parkinson's Disease (December 2016)

New Approach to Funding Clinical Trials

NCCIH released a series of new funding opportunity announcements designed for clinical trials focused on natural product and mind and body intervention studies.

[Learn More](#)





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Enter zip code

Health Topics Drugs & Supplements Vi

Home → Videos & Tools

Videos & Tools

Watch health videos on topics such as anatomy, body systems, and conditions affect them. Check your health with calculators and quizzes.



Health Videos

View videos of anatomy and body systems and conditions affect them.



Surgery Videos

Find videos of operations and surgical procedures.



Health Check Tools

Check your health with interactive calculator questionnaires.



Games

Boost your health knowledge by playing interactive games.



Test Your Knowledge

Test Your Knowledge

See if you're up for the challenge. Exercise

Anabolic Steroids

Cocaine

Hallucinogens

Inhalants

Marijuana

Methamphetamine

Nicotine

Opioids

SEARCH RESULTS

Game Poll Quiz

Search by Topic

Enter keyword, title, etc.

SEARCH

HOME » GAMES AND QUIZZES

Games and Quizzes

f t SHARES · 57

QUIZ

Are You Dating a Player?

SHARES · 486

QUIZ

What's Your Relationship Style?

SHARES · 9

QUIZ

Relationship Checkup! How Healthy is Your Relationship?

SHARES · 23

QUIZ

Should You Make it Official?

SHARES · 2

QUIZ

Which Pop Diva is Your Relationship Role Model?

SHARES · 7

QUIZ

Which Celebrity Couple Are You?

SHARES · 0

QUIZ

What Should You Not

FEATURED POLL

STAYTEEN POLL

When you break up with someone, do you unfollow them?

When you break up with someone, do you unfollow them?

Yes! I can't move on if I'm constantly seeing pictures of my ex. 15%

No way—I want to know what they're up to! 16%

It depends on the situation. 69%

Total votes: 1795

RECENT POLLS



PubMed

PubMed comprises more than 28 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

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[E-Utilities \(API\)](#)

[LinkOut](#)

PubMed Tutorials



- New! PubMed Online Training: PubMed Essentials, PubMed Labs, Making PubMed Work for You
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- [PMC Announce Mail List](#)
- [Utilities Announce Mail List](#)
- [Tagging Guidelines Mail List](#)

Other Resources

- [PMC International](#)
- [Text Mining Collections](#)
- [Developer Resources](#)
- [PMC Citation Search](#)
- [PMC Accessibility](#)

5 MILLION Articles

are archived in PMC.

Content provided in part by:

2163

[Full Participation Journals](#)

333

[NIH Portfolio Journals](#)

4740

[Selective Deposit Journals](#)

Public Access

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- [How Papers Get Into PMC](#)
- [NIH Manuscript Submission System](#)
- [My Bibliography](#)
- [PMCID/PMID/NIHMSID Converter](#)

[PubMed Central](#)

AIDSOURCE

ONE SOURCE FOR HIV/AIDS INFORMATION

> Home > About Us > Contact Us



OFFERING INFORMATION ON HIV/AIDS TREATMENT, PREVENTION, AND RESEARCH

- Home
- Guidelines
- Understanding HIV/AIDS
- Drugs
- Clinical Trials
- Apps

Browse HIV/AIDS Topics



AIDSinfo Infographics

Explore new AIDSinfo infographics that make complex concepts easy to understand! Available in English and Spanish.
[Read more >](#)



- Basic HIV/AIDS Information
- Community Engagement
- HIV Navigation Resources
- HIV Prevention
- HIV Treatment
- HIV-Related Conditions



- Living with HIV/AIDS
- Medical Practice Guidelines
- Mobile Resources
- Multimedia
- Multiple Languages
- News Resources
- PrEP Navigation Resources

The AIDSinfo Glossary is updated!

[Click Here](#)

See new images and updated definitions in the 9th edition of the glossary.

- Guidelines**

 Federally approved HIV/AIDS medical practice guidelines
[View and Download the Guidelines](#)
- Understanding HIV/AIDS**

 Links to HIV/AIDS-related resources
[Fact Sheets](#)
[Infographics](#)
- Drugs**

 Information on FDA-approved HIV/AIDS and opportunistic infection drugs and investigational HIV/AIDS drugs
- Clinical Trials**

 Search tool to find HIV/AIDS-related clinical trials
[HIV/AIDS-Related Clinical Trials](#)
[HIV Preventive Vaccine Clinical Trials](#)



PRODUCTS AND SERVICES ▾

RESOURCES FOR YOU ▾

EXPLORE NLM ▾

GRANTS AND FUNDING ▾

Accelerating Biomedical Discovery and Data-Powered Health

Search for



PubMed

Citations for biomedical literature



MedlinePlus

Reliable, up-to-date health information for you



Open-i

An experimental multimedia search engine



TOXNET

Search databases on hazardous chemicals



ClinicalTrials.gov

A database of clinical studies, worldwide



BLAST

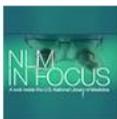
Basic Local Alignment Search Tool

News and Highlights



Director's Blog

An Oath Grounded in the Constitution



In Focus

Talking Hardware and Software with OCCS Director Ivor D'Souza



NCBI Insights

Improved Search Now Available Across NCBI Databases



Circulating Now

Making the Case for History in Medical Education

[NIH home page](#)

Healthy Parenting

Read our collection of updated *NIH News in Health* newsletter stories about parenting.

[Learn more »](#)



Home » [Institutes at NIH](#)

INSTITUTES, CENTERS, AND OFFICES

Institutes at NIH

[List of NIH Institutes, Centers, and Offices](#)

[Directors of NIH Institutes and Centers](#)

[NIH Institute and Center Contact Information](#)

[NIH Office of the Director](#)

List of NIH Institutes, Centers, and Offices

NIH Offices

NIH Office of the Director (OD)

The Office of the Director is the central office at NIH for its 27 Institutes and Centers. The OD is responsible for setting policy for NIH and for planning, managing, and coordinating the programs and activities of all the NIH components. OD program offices include the Office of AIDS Research and the Office of Research on Women's Health, among others.

NIH Institutes

National Cancer Institute (NCI) — Est. 1937

NCI leads a national effort to eliminate the suffering and death due to cancer. Through basic and clinical biomedical research and training, NCI conducts and supports research that will lead to a future in which we can prevent cancer before it starts, identify cancers that do develop at the earliest stage, eliminate cancers through innovative treatment interventions, and biologically control those cancers that we cannot eliminate so they become manageable, chronic diseases.

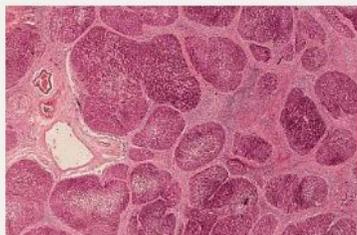
National Eye Institute (NEI) — Est. 1968

The National Eye Institute's mission is to conduct and support research, training, health information dissemination, and other programs with respect to blinding eye diseases, visual disorders, mechanisms of visual function, preservation of sight, and the special health problems and requirements of the blind.

Quick Links

- [NCI](#) [NEI](#) [NHLBI](#)
- [NHGRI](#) [NIA](#) [NIAAA](#)
- [NIAID](#) [NIAMS](#) [NIBIB](#)
- [NICHD](#) [NIDCD](#) [NIDCR](#)
- [NIDDK](#) [NIDA](#) [NIEHS](#)
- [NIGMS](#) [NIMH](#) [NIMHD](#)
- [NINDS](#) [NINR](#) [NLM](#)
- [CC](#) [CIT](#) [CSR](#)
- [FIC](#) [NCATS](#) [NCCIH](#)
- [OD](#)

In the News



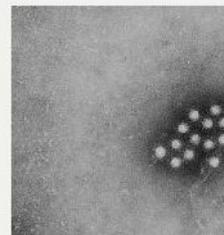
Cirrhosis

Information on this condition in which the liver is perminantly damaged.



Diabetes

Two diabetes medications don't slow progression of type 2 diabetes in youth.



Hepatitis A

Diagnosis, treatment and p

NIH for Kids and Teens

The screenshot shows the NEI website for kids. At the top, there is a search bar and navigation links for "About NEI", "News & Events", "Health Information", "Grants and Funding", "Research at NEI", and "Education Programs". Below the navigation is a "Home > NEI for Kids" breadcrumb. The main content area features a large illustration of a cat's face in a forest setting. To the left, there is a sidebar with a "NEI for KIDS" logo and a list of links: "All About Vision", "About the Eye", "Ask a Scientist Video Series", "Glossary", "The Visual System", and "Your Eyes' Natural Defenses". Below the sidebar, there is a section for "Eye Health and Safety" with links for "First Aid Tips", "Healthy Vision Tips", "Protective Eyewear", and "Sports and Your Eyes". The main content area includes a text block about eye health and an "Ask a Scientist" section with a "Watch now! NEI scientists" link.

The screenshot shows the NIDA for Teens website. At the top, there is a search bar and navigation links for "Teens", "Teachers", "Parents", "Drugs & Health Blog", and "NDAFW". Below the navigation is a "Drug Facts" section with a sub-header "Get the latest on how drugs affect the brain and body. Featuring videos, games, blog posts and more!". To the right of the text is a grid of colorful icons representing various substances and concepts like marijuana, pills, a bottle, a skull and crossbones, a key, a cold, a downward arrow, K2, a pill bottle, a cigarette, a lighter, a plant, a heartbeat, and a syringe. Below this is a "Drugs & Health Blog" section with a "See All Blog Items >" link. There are three blog items displayed: "Say What? 'Epigenetics'" with a DNA helix image, "Could Snake Venom Help with the Opioid Problem?" with a pill bottle image, and "Addiction itself is not a crime, it's a disease." with a clipboard image. Below the blog items are three sections: "Videos" with a video player showing a man speaking, "Games" with an illustration of mice and a monkey, and "National Drug & Alcohol Facts Week" with a colorful sunburst graphic.

Home » Research & Training

RESEARCH & TRAINING

Research & Training

- Science Highlights
- Science Education
- Research in NIH Labs & Clinics
- Training Opportunities
- Library Resources
- Research Resources
- Clinical Research Resources
- Safety, Regulation & Guidance
- Medical Research Initiatives

Science Education



On this page

- Resources for Students
- Resources for Educators

Resources for Students



NIH Scientist Launch Game TMApp



NIAMS Kids Pages



Microscope Imaging Station



From the NIH Director



Francis Collins, M.D., Ph.D., offers a message to high school graduates.

This video was requested by a motivated graduating senior at a high school in Ontario, but it speaks to students everywhere. May 19, 2011.

Featured Site

NIAMS Kids Pages

Your childhood and teen years are a prime time to learn habits that will help you keep your bones, joints, muscles, and skin healthy for years to come. Have fun with these pages, and come back often for updates and new activities.

- Healthy Muscles Matter
- Healthy Joints Matter
- Healthy Skin Matters
- Healthy Bones Matter

NIH Education Resources

Home → [MedlinePlus Guide to Healthy Web Surfing](#)

MedlinePlus Guide to Healthy Web Surfing



What should you look for when evaluating the quality of health information on Web sites? Here are some suggestions based on our experience.

Consider the source -- Use recognized authorities

Know who is responsible for the content.

- Look for an "about us" page. Check to see who runs the site: is it a branch of the Federal Government, a non-profit institution, a professional organization, a health system, a commercial organization or an individual.
- There is a big difference between a site that says, "I developed this site after my heart attack" and one that says, "This page on heart attack was developed by health professionals at the American Heart Association."
- Web sites should have a way to contact the organization or webmaster. If the site provides no contact information, or if you can't easily find out who runs the site, use caution.

Focus on quality--All Web sites are not created equal

Does the site have an editorial board? Is the information reviewed before it is posted?

- This information is often on the "about us" page, or it may be under the organization's mission statement, or part of the annual report.
- See if the board members are experts in the subject of the site. For example, a site on osteoporosis whose medical advisory board is composed of attorneys and accountants is not medically authoritative.
- Look for a description of the process of selecting or approving information on the site. It is usually in the "about us" section and may be called "editorial policy" or "selection policy" or "review policy."
- Sometimes the site will have information "about our writers" or "about our authors" instead of an editorial policy. Review this section to find out who has written the information.

Be a cyberskeptic--Quackery abounds on the Web

Does the site make health claims that seem too good to be true? Does the information use deliberately obscure, "scientific" sounding language?

[Guide to Healthy Web Surfing](#)

Evaluating Health Information

HEALTH TOPIC PAGE

The screenshot shows the MedlinePlus website interface for the 'Evaluating Health Information' health topic page. At the top, there is a search bar and navigation links for 'About MedlinePlus', 'Site Map', 'FAQs', and 'Customer Support'. Below the search bar are tabs for 'Health Topics', 'Drugs & Supplements', and 'Videos & Tools', with a language selector for 'Español'. The breadcrumb trail reads 'Home → Health Topics → Evaluating Health Information'. The main heading is 'Evaluating Health Information', followed by social media icons. A table of contents lists sections: 'Basics' (Summary, Start Here), 'Learn More' (Related Issues, Specifics), 'See, Play and Learn' (Videos and Tutorials), 'Research' (Statistics and Research, Journal Articles), 'Resources' (Find an Expert), and 'For You' (Patient Handouts). A 'Summary' section begins with the text: 'Millions of consumers get health information from magazines, TV or the Internet. Some of the information is reliable and up to date; some is not. How can you tell the good from the bad?'. Below this, it says 'First, consider the source. If you use the Web, look for an "about us" page. Check to see who runs the site: Is it a branch of the government, a university, a health organization, a hospital or a business? Focus on quality. Does the site have an editorial board? Is the information reviewed before it is posted? Be skeptical. Things that sound too good to be true often are. You want current, unbiased information based on research.' At the bottom left, there is a 'Start Here' section with two links: 'Evaluating Internet Health Information: A Tutorial from the National Library of Medicine' and 'Find Quality Resources: How Do I Know if I Can Trust the Information I Find Online?'. On the right side, there is a 'Get Evaluating Health Information updates by email' form with an email input field and a 'GO' button. Below that is a 'MEDICAL ENCYCLOPEDIA' section with the text 'Online health information - what can you trust?' and a 'Related Health Topics' button.

TUTORIAL

The screenshot shows the MedlinePlus website interface for the 'Evaluating Internet Health Information: A Tutorial from the National Library of Medicine' tutorial page. At the top, there is a search bar and navigation links for 'About MedlinePlus', 'Site Map', 'FAQs', and 'Customer Support'. Below the search bar are tabs for 'Health Topics', 'Drugs & Supplements', and 'Videos & Tools', with a language selector for 'Español'. The breadcrumb trail reads 'Home → Videos and Tools → Evaluating Internet Health Information: A Tutorial from the National Library of Medicine'. The main heading is 'Evaluating Internet Health Information: A Tutorial from the National Library of Medicine', followed by social media icons. A list of bullet points describes the tutorial: 'This tutorial teaches you how to evaluate the health information that you find on the Web. It is about 16 minutes long.', 'You need the Flash plug-in, version 8 or above, to view it. If you do not have Flash, you will be prompted to obtain a free download of the software before you start.', and 'The tutorial runs automatically, but you can also use the navigation bar at the bottom of the screen to go forward, backward, pause, or start over.' Below the text is a yellow 'Start the tutorial' button. Underneath is a screenshot of the tutorial's interface, showing a navigation bar and a main content area with a video player. At the bottom of the page, there is a text box that says 'Learn how you can download a version of the tutorial for use when no Internet connection is available. Read the transcript of the tutorial.'

Environmental Health

Home → Health Topics → Environmental Health

Environmental Health

On this page

Basics

- [Summary](#)
- [Start Here](#)
- [Latest News](#)

Learn More

- [Related Issues](#)
- [Specifics](#)

See, Play and Learn

- No links available

Research

- [Statistics and Research](#)
- [Clinical Trials](#)
- [Journal Articles](#)

Resources

- [Find an Expert](#)

For You

- [Children](#)
- [Teenagers](#)
- [Women](#)



Get Environmental Health updates
by email [i](#)

Related Health Topics

- [Air Pollution](#)
- [Drinking Water](#)
- [Electromagnetic Fields](#)
- [Hazardous Waste](#)
- [Indoor Air Pollution](#)

Related Health Topics

- [Air Pollution](#)
- [Drinking Water](#)
- [Electromagnetic Fields](#)
- [Hazardous Waste](#)
- [Indoor Air Pollution](#)
- [Molds](#)
- [Noise](#)
- [Occupational Health](#)
- [Oil Spills](#)
- [Pesticides](#)
- [Radiation Exposure](#)
- [Water Pollution](#)

Summary

Our environment affects our health. If parts of the environment, like the [air](#), [water](#), or soil become polluted, it can lead to health problems. For example, asthma pollutants and chemicals in the air or in the home can trigger asthma attacks.

Some environmental risks are a part of the natural world, like [radon](#) in the soil. Others are the result of human activities, like [lead poisoning](#) from paint, or exposure to [asbestos](#) or [mercury](#) from mining or industrial use.

NIH: National Institute of Environmental Health Sciences

Start Here

- [Environmental Health Topics from A to Z](#)  (National Institute of Environmental Health Sciences)
Also in Spanish
- [Tox Town](#)  (National Library of Medicine)
Also in Spanish

TOXNET

Collection of databases on hazardous chemicals, toxic releases, and environmental health

e.g. benzene, endocrine disruptor



PubMed Toxicology Subset

Strategy created for searching the subject of toxicology in NLM PubMed. This filter can also be used directly in PubMed in a search as tox[sb]. Example: lead AND tox[sb]

e.g. mercury



Selected Topics

- Arsenic
- Arts & Crafts Materials
- Climate Change
- Dietary Supplements
- Drinking Water and Water Pollution
- Environmental Justice
- Indoor Air
- Laboratory Safety
- Lead
- Mercury



Guides, Tutorials, Workbooks

- TOXNET Workbook (PDF, 8.8MB)
- TOXNET Class Schedule
- TOXNET Tutorials & Recordings, National Network of Libraries of Medicine (NNLM)
- TOXNET Guide on the Side, National Network of Libraries of Medicine (NNLM)
- Quick Tours
 - Basics of Searching the Hazardous Substances Data Bank
 - Searching the LactMed Database



Help

- A to Z Index of Environmental Health and Toxicology Resources
- About the NLM Toxicology & Environmental Health Information Program (TEHIP)
- Choose the Right Environmental Health and Toxicology Resource
- Contact us
- Email Updates
- Environmental Health, Toxicology and Chemical Database Descriptions

- Wide range of environmental and toxicology topics
- Health effects
- Information for:
 - variety of professionals
 - the public
 - teachers and students
- Tutorials and guides provided

[Environmental Health & Toxicology](#)

Search Our Resources

TOXNET

Databases on toxicology, hazardous chemicals, environmental health, and toxic releases

TOXLINE®

Journal literature covering biochemical, pharmacological, physiological, and toxicological effects of chemicals

LactMed®

Drugs and other chemicals to which breastfeeding mothers may be exposed

Pillbox

Visually search for and identify oral solid dosage form medications

DSLID

Ingredients, health benefit claims, and manufacturer information for dietary supplements

CTD™

Scientific data describing relationships between chemicals, genes and human diseases

GENE-TOX

Peer-reviewed genetic toxicology test data for over 3,000 chemicals (1991-1998)

Additional Resources

HSD Environmental Health & Toxicology

Hazardous
toxicology

LiverTox

Information
and management
prescription

DART

Reference
toxicology

Haz-Link

Links job
diseases

ITER

Risk information
authority

TRI

Annual
over 600

CPD

Analysis
animal

Environmental Health, Toxicology & Chemical Information

- Home
- Search TOXNET/Tox Subset
- Selected Topics
- Guides, Tutorials, Workbooks
- Help
- Search Our Resources
- Additional Resources
- Mobile Apps

Home > Help > Choose the right environmental health and toxicology resource

✉ Updates 🐦 Follow ✉ Email This Page

Choose the right environmental health and toxicology resource

The National Library of Medicine's Environmental Health and Toxicology Portal provides a starting point for finding reliable information on toxicology, hazardous chemicals, environmental health, and toxic releases. This guide can help you select the right resource for your needs.

If you're looking for:	Go to:
Journal references to toxicology literature including birth defects information	TOXLINE® or DART®
Summaries of peer-reviewed human health effects and emergency medical treatment for chemicals	HSDB®
Animal Toxicity Studies	HSDB
Environmental Fate, Exposure, Standards and Regulations	HSDB
Chemical/Physical properties and safety/handling/disposal of chemicals	HSDB
Manufacturing, formulation and use of chemicals	HSDB
Chemical names and synonyms	ChemIDplus® Lite or HSDB
Chemical structures and structure searching/drawing capability	ChemIDplus Advanced
InChI and/or SMILES structure notations	ChemIDplus Advanced
List of links to NLM/NIH and other government agency information for a single chemical	ChemIDplus Lite
Drug-induced liver injury: Evidence-based information on prescription and over-the-counter drugs, herbals, and dietary supplements.	LiverTox
Carcinogenicity, mutagenicity, tumor promotion and tumor inhibition data from the National Cancer Institute (NCI). CCRIS provides historical information from the years 1985 - 2011. It is no longer updated.	CCRIS
Peer-reviewed mutagenicity test data from the U.S. Environmental Protection Agency (EPA) including species, type of assay, test result and more. GENE-TOX covers the years 1991 - 1998. It is no longer updated.	GENE-TOX



Selected Topics

- Arsenic
- Arts & Crafts Materials
- Climate Change
- Dietary Supplements
- Drinking Water and Water Pollution
- Environmental Justice
- Indoor Air
- Laboratory Safety
- Lead
- Mercury
- Nanotechnology
- Opiate Addiction and Treatment
- Outdoor Air
- Pesticide Exposure
- Tobacco and Smoking
- West Nile Virus Pesticide Control



Guides, Tutorials, Workbooks

- TOXNET Workbook (PDF, 8.8MB)
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- TOXNET Tutorials & Recordings, National Network of Libraries of Medicine (NNLM)
- TOXNET Guide on the Side, National Network of Libraries of Medicine (NNLM)
- Quick Tours
 - Basics of Searching the Hazardous Substances Data Bank
 - Searching the LactMed Database
- ToxTutor: Learn essential principles of toxicology
- Training



Help

- A to Z Index of Environmental Health and Toxicology Resources
- About the NLM Toxicology & Environmental Health Information Program (TEHIP)
- Choose the Right Environmental Health and Toxicology Resource
- Contact us
- Email Updates
- Environmental Health, Toxicology and Chemical Database Descriptions
- Find Free Full Text Health Sciences Information
- HSDB Chemicals Sorted by Chemical Abstracts Registry Number (CASRN)
- HSDB Chemicals Sorted by Substance Name
- IUPAC Glossary of Terms Used in Toxicology
- Promotional Materials
- Selection Guidelines for Non-National Library of Medicine Resources
- Staff Publications
- TOXNET FAQs



National Library of Medicine

Environmental Health Student Portal

Connecting Middle School Students to Environmental Health Information

Home

Air Pollution

Chemicals

Climate Change

Water Pollution

Videos

Games

Experiments

For Teachers



Search

Go



Print this Page

What is Environmental Health ?

Environmental Health is the interrelationship between human health and the environment, either natural or manmade.

[Learn More](#)



Air Pollution



Chemicals



Climate Change



Water Pollution



Interested in a trailer of our animations about characteristics, uses, and health effects of hazardous chemicals? **Please, click here to preview.**

ToxMystery

Help Toxie the Cat find hazards in the house. Lesson plans available!



The image shows the interface for the ToxMystery game. On the left, a grey cat named Toxie is sitting. A speech bubble next to it says: "Hi, I'm Toxie. Thanks for coming over. Can you help me find the hazards in my house? Start by clicking on a room." To the right of the cat is a cutaway view of a house with three floors. The top floor shows a bedroom and a living area. The middle floor shows a living room with a yellow sofa and a kitchen. The bottom floor shows a garage with a red car and a utility room. The word "Español" is written in a green box in the top right corner. At the bottom of the interface, there is a green bar with the text "National Library of Medicine | Parent Resources | For Teachers | Getting Started". A small circular icon with a cat's face and the text "Sound is on" is in the bottom right corner.

[ToxMystery](#)

Getting started:

Close

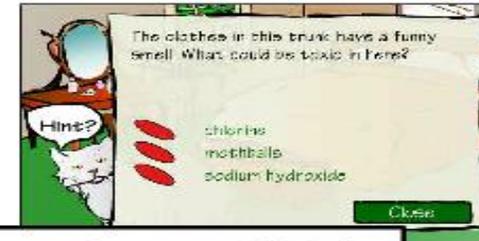
You can click on the rooms in any order



Roll your mouse over things in the house, and if it moves, click on it.



When the question box pops up, click on the answer.



If you need a hint, press on Toxie.



The scorekeeper will let you know if you have found all of the

Here's a bedroom!
There are three hazards in this room.
You have found 2.



Good Luck!



Sources of Exposure

Explore places and situations where you might be exposed to hazardous chemicals and contaminants. Learn how you can minimize your risk.

EXPLORE

[Tox Town](#)



Topics Covered in this Course

ToxTutor is divided into the following sections:

1. [Introduction to Toxicology](#)
2. [Dose and Dose Response](#)
3. [Toxic Effects](#)
4. [Interactions](#)
5. [Toxicity Testing Methods](#)
6. [Risk Assessment](#)
7. [Exposure Standards and Guidelines](#)
8. [Basic Physiology](#)
9. [Introduction to Toxicokinetics](#)
10. [Absorption](#)
11. [Distribution](#)
12. [Biotransformation](#)
13. [Excretion](#)
14. [Cellular Toxicology](#)
15. [Intuitive Toxicology and Risk Communication](#)
16. [Environmental Toxicology, Environmental Health, and One Health](#)
17. [Conclusion](#)

Welcome to ToxTutor

Introduction

ToxTutor is a self-paced tutorial covering key principles of toxicology for users of the National Library of Medicine (NLM) chemical and toxicology databases. While a knowledge of anatomy and physiology is not required for viewing ToxTutor, the [Introduction to the Human Body](#) from the National Cancer Institute provides a good introduction to the topic.

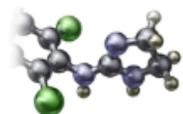
What's New in ToxTutor? [↗](#)
August 2018 Release

Continuing Education / Certificate of Completion

This course is approved for 3 contact hours for California Registered Environmental Health Specialists (REHSs) and National Environmental Health Association's (NEHA) REHS/RSs. To take the tutorial and receive a certificate, please **register and complete the tutorial** [↗](#) through our free learning management system.

[ToxTutor link](#)

[TOXNET Home](#) > [ChemIDplus Lite](#)



ChemIDplus

A TOXNET DATABASE
[Lite](#) • [Browse](#) • [Advanced](#)

SEARCH ChemIDplus

BROWSE ChemIDplus

ADVANCED SEARCH

(automatic) ▼

(automatic) ▼

Search

Search for multiple terms by using this format: 50-00-0|50-01-1|50-02-2

Support

Resources

[Help](#)
[Fact Sheet](#)
[Sample Record](#)
[TOXNET FAQ](#)

Contact Us

Email: tehip@tehl.nlm.nih.gov
Telephone: (301) 496-1131
Fax: (301) 480-3537

About ChemIDplus



What is ChemIDplus?

Chemical database is a dictionary of over 400,000 chemicals (names, synonyms, and structures). ChemIDplus includes links to NLM and other databases and resources, including links to federal, state and international agencies. ChemIDplus Lite is designed for simple searching on name or registry. ChemIDplus Advanced helps users draw their own structures and perform similarity and substructure searches.

Updates: ChemIDplus records are updated daily.

Did you know



How do I lease/license the TOXNET databases?

The following TOXNET databases are available for lease: ChemIDplus, DIRLINE, CCRIS, GENE-TOX, HSDB, and TOXLINE.

For further information visit [Leasing Data from the National Library of Medicine](#).

[More FAQs](#)

Environmental Health & Toxicology

Resources on environmental health and toxicology

[Visit Site](#)



[ChemIDplus](#)

National Institute of Environmental Health Sciences

- Curricula for teachers
- Information for students
- Speaker bureau
- Summer Internship Program
- Fun activities for younger kids

[NIEHS Health & Education resources](#)

The screenshot shows the NIEHS Health & Education website. At the top, there are navigation tabs for Health & Education, Research, Funding Opportunities, Careers & Training, News & Events, and About NIEHS. The main heading is "Health & Education". Below this, a paragraph states: "NIEHS is committed to conducting the most rigorous research in environmental health sciences, and to communicating the results of this research to the public." There are three main resource cards in the "Health & Education" section:

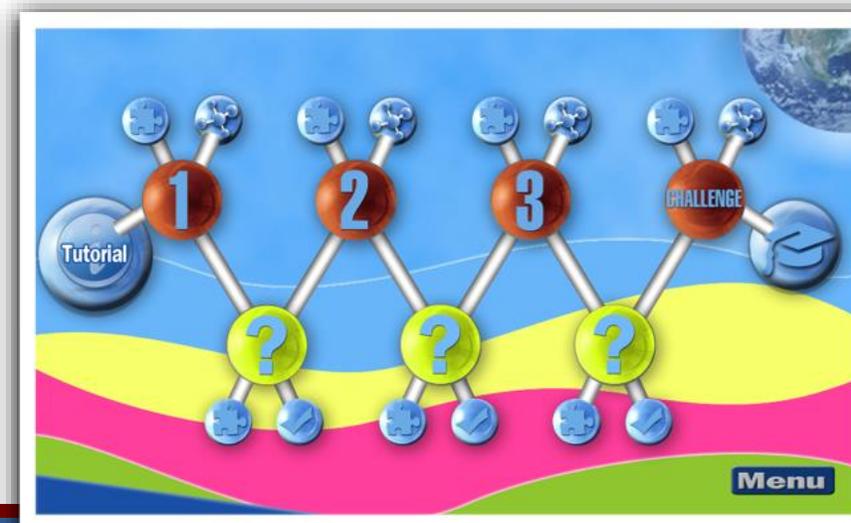
- Environmental Health Topics:** NIEHS supports and conducts studies to determine how chemicals and environmental agents may influence a variety of diseases. Access a wide range of information NIEHS makes available.
- Brochures & Fact Sheets:** Looking for information about NIEHS or environmental health research? The Brochures & Fact Sheets page allows users to search using several topic areas, such as title, environmental agent, or disease.
- Environmental Health Science Education:** The Environmental Health Science Education website provides educators, students, and scientists with easy access to reliable tools, resources and classroom materials.

Each card has a search icon and the text "Are you looking for?". Below these cards, there are two more sections:

- Kids Environment | Kids Health:** A resource for kids, parents, and teachers to find fun and educational materials related to health, science, and the environment we live in today.
- Hot Topics:** This section includes:
 - Endocrine Disruptors Research:** NIEHS has been a pioneer in conducting research on the health effects of endocrine disruptors for more than three decades, starting with the endocrine-disrupting effects of the pharmaceutical, diethylstilbestrol (DES). A button labeled "Discover New Research" is present.
 - Essential Oils:** Essential oils, which are obtained through mechanical pressing or distillation, are concentrated plant extracts that retain the natural smell and flavor of their source. A button labeled "Find Out More" is present.

NLM iOS Apps

Games on iPad & iPhone: Base Chase, Run4Green, TOXinvaders, Bohr Thru



Genomics/Genetics

Genomic Health/Science Literacy

- Lack biology basics
- Lack mathematical concepts
- Low health literacy
- Biomedical professions
- Medical treatment
- Understand basics of health conditions



GeneEd

GeneEd *Genetics, Education, Discovery*

Home Topics Labs & Experiments Teacher Resources Careers in Genetics Highlights

search... GO

Text Size +
Print This Page
Email Us

The GeneEd website is scheduled to be retired on March 31, 2019. Selected GeneEd content will be transferred to [Genetics Home Reference](#), another online resource from the National Library of Medicine.
If you're a regular user of GeneEd, we'd love to get your feedback in a [brief survey](#).

Cell Biology
The study of the cell, including mitosis and meiosis

Genetic Conditions
Conditions caused by gene variations or mutations

DNA Forensics
The application of genetic testing for legal purposes

DNA, Genes, Chromosomes
The building blocks of inheritance

Evolution
Processes by which organisms are changed over time

Top Issues In Genetics
Select genetic topics of popular interest

Heredity/Inheritance Patterns
The genetic transmission of traits

Biostatistics
The use of mathematics to investigate life science related problems

Epigenetics/Inheritance and the Environment
The genome's dynamic response to the environment

Biotechnology
Biological techniques used to enhance products

[GeneEd home page](#)

Education

Educational materials about genetics and genomics



Smithsonian NHGRI Genome Exhibition

A genomics exhibition from the Smithsonian and NHGRI



Genomic Careers

Information on careers in genomics and genetics



Online Genetic Education Resources

A list of online resources for learning about genomics and genetics



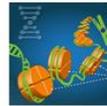
About The Human Genome Project

Information on the history, progress and impact of the HGP



National DNA Day

A unique day when everyone can learn more about genomics and genetics



Fact Sheets

Clearly written information on the institute, genetic research and genetic concepts



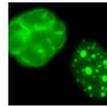
Talking Glossary of Genetic Terms

Terms and definitions used in genetic research with multimedia



Genetic Education Resources for Teachers

Teaching plans to present the science of genetics and genomics



Online Education Kit

A web-based resource outlining the major history and developments of genomics

Highlights

Annual National DNA Day lecture to honor Congresswoman Louise M. Slaughter



For NHGRI's National DNA Day on April 25, Olivier Noel, Ph.D., founder and CEO of DNAsimple, will present "Bench to Bedside to Business: A Talk on Startups in Science" for the newly named Louise M. Slaughter National DNA Day lecture, which honors the late Congresswoman. The media and the public are invited to attend at the Lister Hill Center Auditorium on the NIH campus.

Celebrate 15 ways genomics is influencing our lives



On April 5th, NHGRI will launch the '15 for 15' Celebration to honor the 15th anniversary of the Human Genome Project's completion. Beginning April 5th, and each business day leading up to National DNA Day on April 25th, NHGRI will reveal one of 15 topics that illustrate the

See Also

Education and Community Involvement Branch

GenomeTV

Genome Advance of the Month

Education Archive

On Other Sites:

Genome: Unlocking Life's Code
NHGRI Smithsonian Exhibition

GenomeTV
NHGRI's YouTube Channel

Celebrating Genomics Through Awareness

[Find Events](#)

[Register An Event](#)

[Get Starter Kit](#)

[Celebrate With NHGRI](#)

[Get Activity Ideas](#)

[About DNA Day](#)

National DNA Day is a unique day when students, teachers and the public can learn more about genetics and genomics! The day commemorates the completion of the Human Genome Project in April 2003, and the discovery of DNA's double helix in 1953.
Subscribe to our newsletter!

Find Events In Your Area

The National DNA Day Network has events all over the country. Find an event near you to celebrate DNA Day.

Celebrate with NHGRI

2018 EVENTS

Stay tuned for all of the 2018 DNA Day events coming your way.

Join @DNADay on Twitter

#DNADay18

Plan an Event

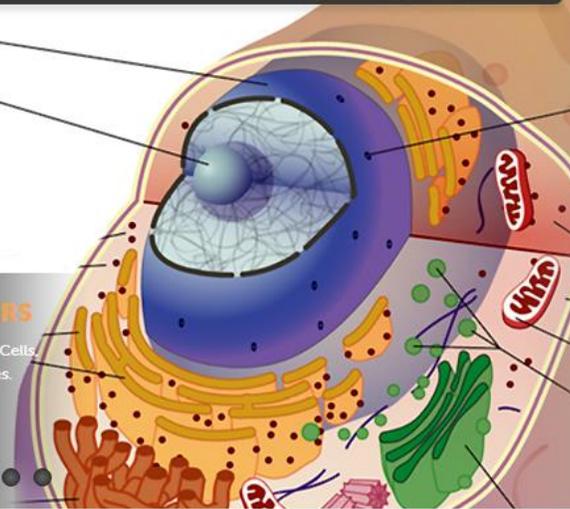
APRIL

25

ORGANELLES, CELL, & DNA

RESOURCES FOR TEACHERS

Nucleus
Nucleolus



CELL, ORGANELLES, & DNA RESOURCES FOR TEACHERS

15 high-quality, copyright free, researcher-vetted, downloadable image files await you in our Cells, Organelles, and DNA Resources for Teachers tool set: each entry in a PDF and PowerPoint files.

LEARN MORE

NOW OPEN AT THE ROCHESTER ART CENTER (WITH THE MAYO CLINIC)

[EXHIBITION DETAILS](#)

EXPLORE

The exhibit



ABOUT

The exhibit



NEW & NOTEWORTHY



Our Latest Teacher's Newsletter Is Here!

Helpful tips. Award-winning resources. Timely tools. Ways to get involved. Read the latest issue here. Subscribe now for free email delivery every month!



Pinterest for the Biology Teacher!

Curated by a PhD geneticist, our Pinterest pages are overflowing with ideas gathered from around the Internet that can change your classroom in an instant! Hundreds of innovative ways to teach, celebrate, and even decorate genomically. Bookmark, or pin us.



The Best 5-Minute Animation On DNA, Genetics, and Genomes Anywhere!

Our most popular teaching resource. This spunky

LEARN

Multimedia, Activites and
More

FEATURED

"Human Migration"
Interactive Learning Tool

- Traveling exhibit
- Monthly newsletter for teachers
- Teacher features
- Interactive learning
- Timeline
- Infographics

[Unlocking Life's Code](#)



Your Guide to Understanding
Genetic Conditions

- Health Conditions
- Genes
- Chromosomes & mtDNA
- Resources
- Help Me Understand Genetics

Genetics Home Reference provides consumer-friendly information about the effects of genetic variation on human health.



Health Conditions

More than 1,100 health conditions, diseases, and syndromes

[Browse A-Z](#)



Genes

More than 1,300 genes and the health effects of genetic changes

[Browse A-Z](#)



New & Updated Pages

New Pages

- 17q12 duplication
- ACAD9 deficiency
- primary coenzyme Q10 deficiency
- [More New Pages...](#)

Updated Pages

- 5-alpha reductase deficiency
- Erdheim-Chester disease
- L1 syndrome
- Usher syndrome
- [More Updated Pages...](#)

Bulletins

- Health conditions
- Genes
- Chromosomes and DNA
- Resources
- Genetic handbook

[Genetics Home Reference](#)

NLM Traveling Exhibits

HARRY POTTER'S WORLD
RENAISSANCE SCIENCE, MAGIC, AND MEDICINE

In 1997, British author J. K. Rowling introduced the world to Harry Potter and a literary phenomenon was born. Although a fantasy story, the *Harry Potter* book series features magic that is based partially on Renaissance...

[CONTINUE to INTRODUCTION](#)

[EXPLORE](#)

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LEARN more
Explore educational resources inspired by the *Harry Potter* series.

SEE the digital gallery
View digital gallery content.

BOOK the traveling exhibition
Reserve the traveling exhibition.

[NLM's Harry Potter's World](#)

Lesson Plans

- Boggart and Fear in Harry Potter
- Genetic Traits in Harry Potter

Higher Education

Online Activities

Other Resources

Genetic Traits in Harry Potter
grade level: 5–8 | subject: science and technology

[PRINT PAGE](#)

time needed
two to four 40-minute class periods

Four 40-minute class periods for younger students with little knowledge of genetics (two periods for Pre-lesson Activity and Class 1, and the other two periods for Class 2)

Two 40-minute class periods for older students with strong knowledge of genetics (one period for Pre-lesson Activity and Class 1 and the second period for Class 2)

description
The purpose of this lesson is to give students an introductory understanding of genetic inheritance. Students review and become familiar with basic genetic concepts and terms, such as DNA, chromosome, gene, allele, homozygous, heterozygous, recessive and dominant genes, genotype, phenotype, complex traits, Mendelian inheritance, and Punnett square. Students apply these to identify and examine several examples of simple and complex genetic traits in several characters in *Harry Potter*. Students also examine inheritance patterns of magical ability in *Harry Potter*, and use the concepts they have learned to identify possible genotypes of the magical abilities demonstrated by several characters in the series.

Note: The models of genetic inheritance presented in this lesson plan have been simplified so that students learn basic terms and concepts about genes and genetically inherited physical characteristics among people. In reality, many of the traits used as examples—and most traits, in general—tell a far more complicated story about inheritance than discussed in this lesson plan. For furthering students' learning and exploration of the complex genetic studies, please see [Extension Activity 2](#) below.

OPEN ALL

- [learning outcomes](#)
- [background information](#)
- [vocabulary](#)
- [materials](#)
- [pre-lesson activity](#)
- [class 1 procedures](#)
- [class 2 procedures](#)

NCBI Bookshelf

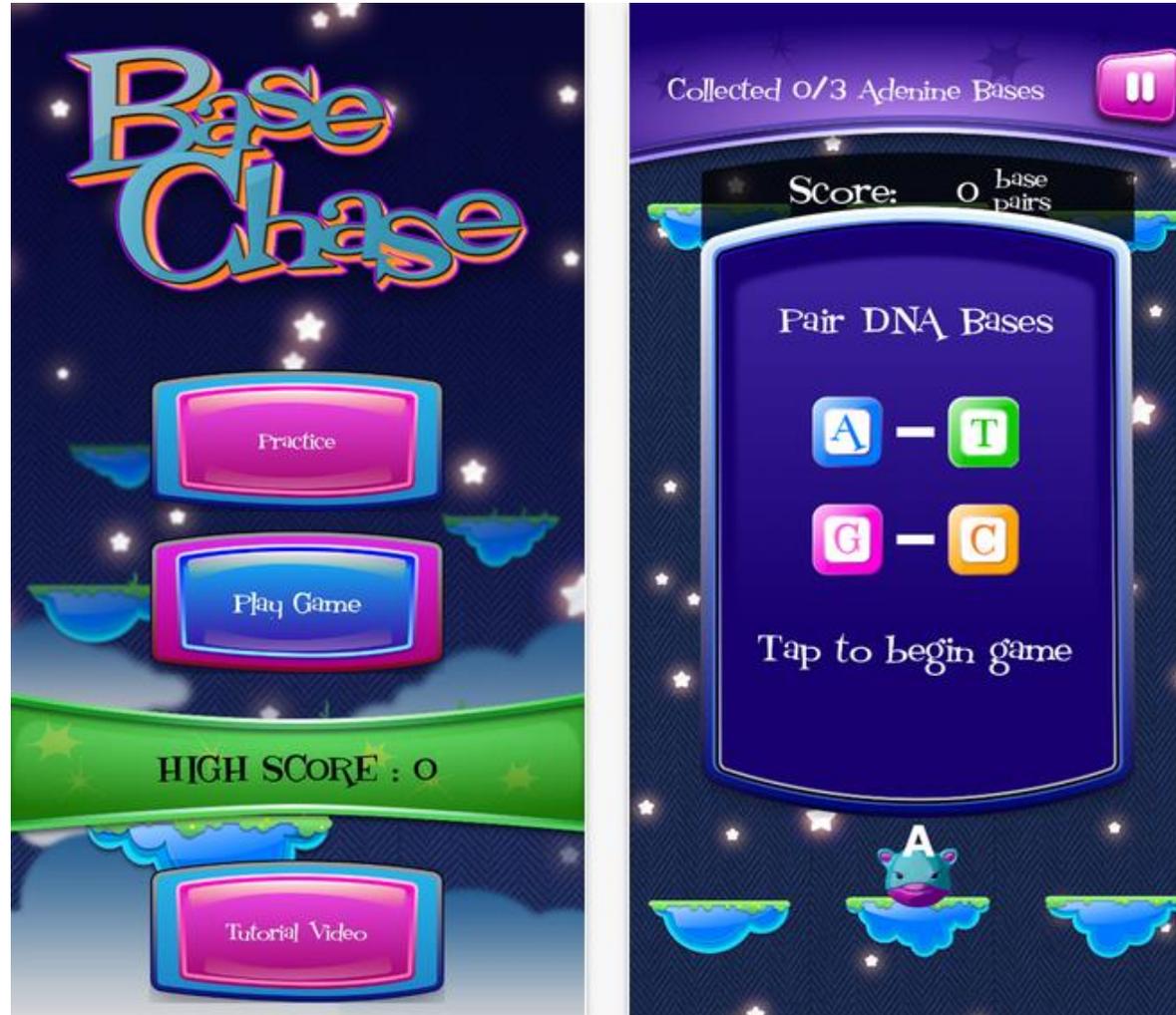
Genes and Diseases

- Organized by the parts of the body that genetic disorders affect
- Over 80 genetic disorder summaries
- Images and interesting facts
- PDF downloads of chapters
- Links to related research literature and pertinent websites



[Genes and Diseases from NCBI Bookshelf](#)

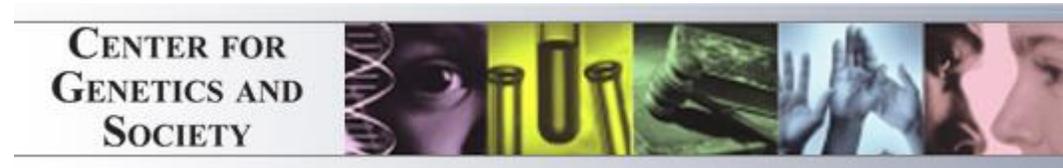
Base Chase



Literacy/Education Resources



Public Health Genomics



Interdisciplinary Resources

NLM Exhibition Program

NIH U.S. National Library of Medicine

Databases Find, Read, Learn Explore NLM Research at NLM NLM for You

NIH Customer Support

History of Medicine History Home | About Us | Visit Us | Contact Us | Copyright | Site Map

Home > History Home > About Us > Exhibition Program

EXHIBITION PROGRAM

ABOUT US EXHIBITIONS BOOK A TRAVELING EXHIBITION EDUCATION CONTACT US SITE MAP

SEARCH

make history!
expand your horizons

search exhibitions: explore, discover, enjoy!

explore our exhibitions

book a traveling exhibition

find an educational resource

curious? take a look

The Exhibition Program creates lively and informative exhibitions and educational resources that enhance awareness of and appreciation for the collections of the National Library of Medicine. Explore. Discover. Enjoy.

[NLM Exhibition Program](#)

Focus on Health Issues

HOME | EXHIBITION | EDUCATION | DIGITAL GALLERY | CREDITS | TRAVELING INFO

SURVIVORS & THE

AIDS, POLITICS

"We condemn attempts to label women as 'victims,' a term which we are only occasionally used, and which implies passive dependence upon the perpetrator. We are 'People With Power'."

EXPLORE THE EXHIBITION

HOME | EXHIBITION | EDUCATION | CREDITS

For All the People

A CENTURY OF CITIZEN ACTION IN HEALTH CARE REFORM

Health care reform has been a contentious political issue in the United States for more than a hundred years.

—EXPLORE THE EXHIBITION—

EXPLORE MORE EXHIBITIONS MORE EDUCATIONAL RESOURCES

CONFRONTING VIOLENCE IMPROVING WOMEN'S LIVES

EXHIBITION PROGRAM

TEMPERANCE and women's rights advocates called attention to family violence and agitated for reform during the mid-19th century. Despite their efforts, society as a whole continued to ignore domestic violence.

CONTINUE to GENERATIONS OF REFORMERS



EXPLORE

HOME • EXHIBITION • EDUCATION • DIGITAL GALLERY • CREDITS

LEARN more



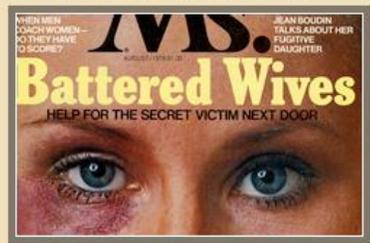
Who were some advocates for change?

FIND OUT +

SEE the digital gallery



BOOK the traveling exhibition



EXPLORE MORE EXHIBITIONS MORE EDUCATIONAL RESOURCES



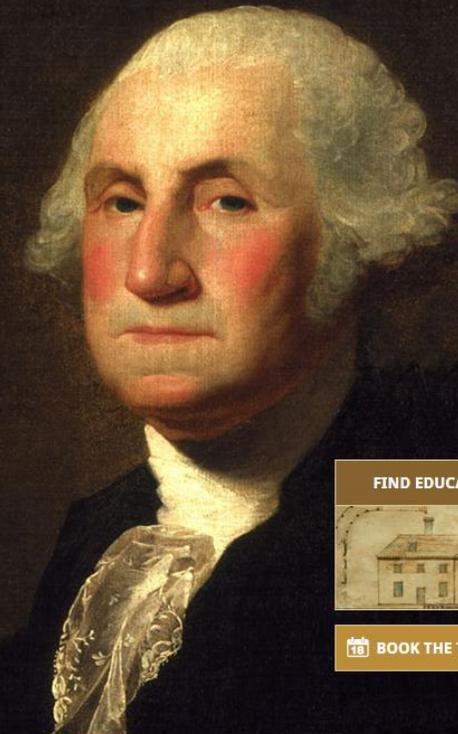
FRANKLIN



EVERY NECESSARY
CARE & ATTENTION
GEORGE WASHINGTON
& MEDICINE

Alongside the traditional demands of family life, and political and military leadership, George Washington focused considerable attention on the health and safety of his family, staff, slaves, and troops.

EXPLORE THE EXHIBITION

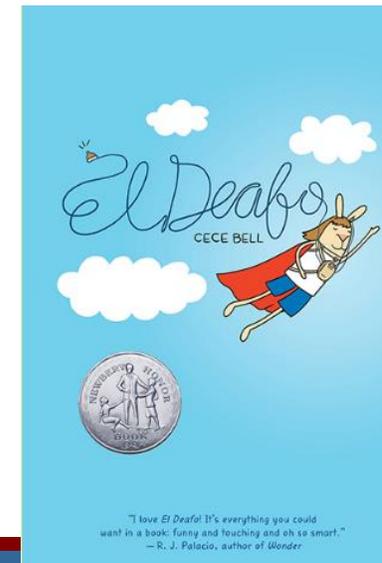
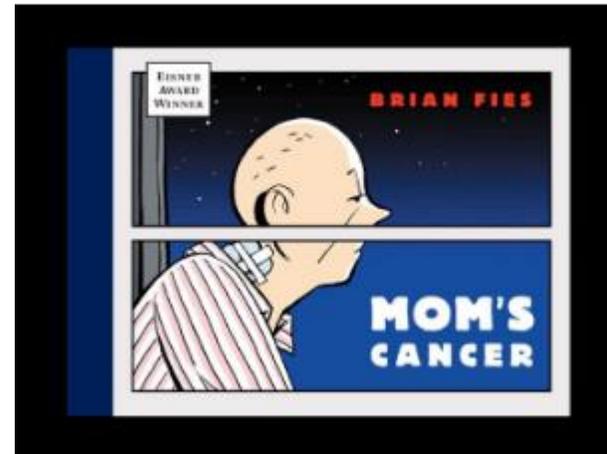
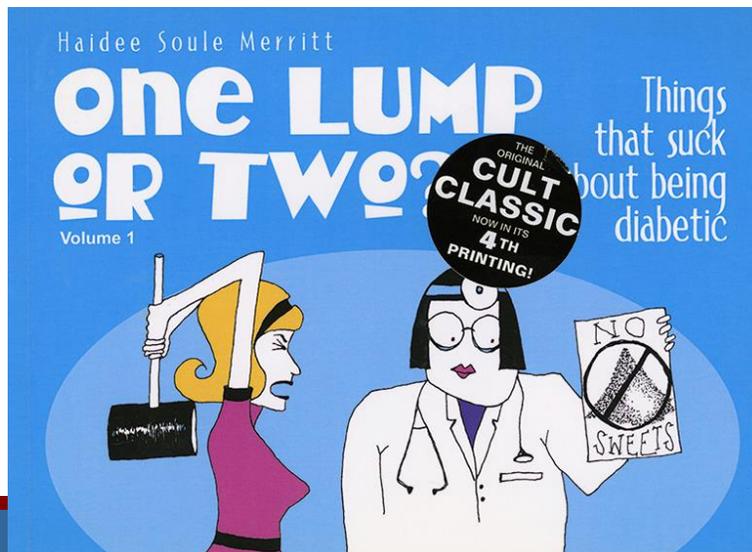
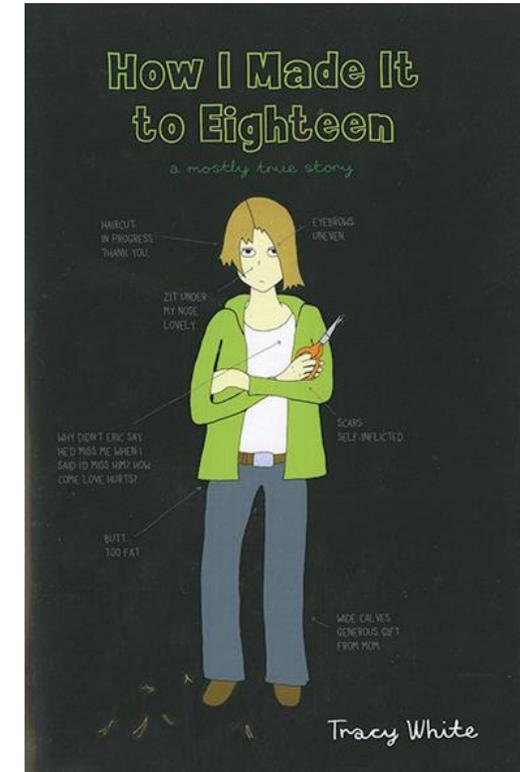
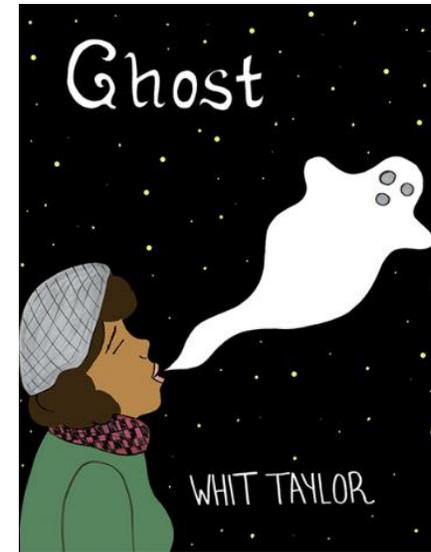
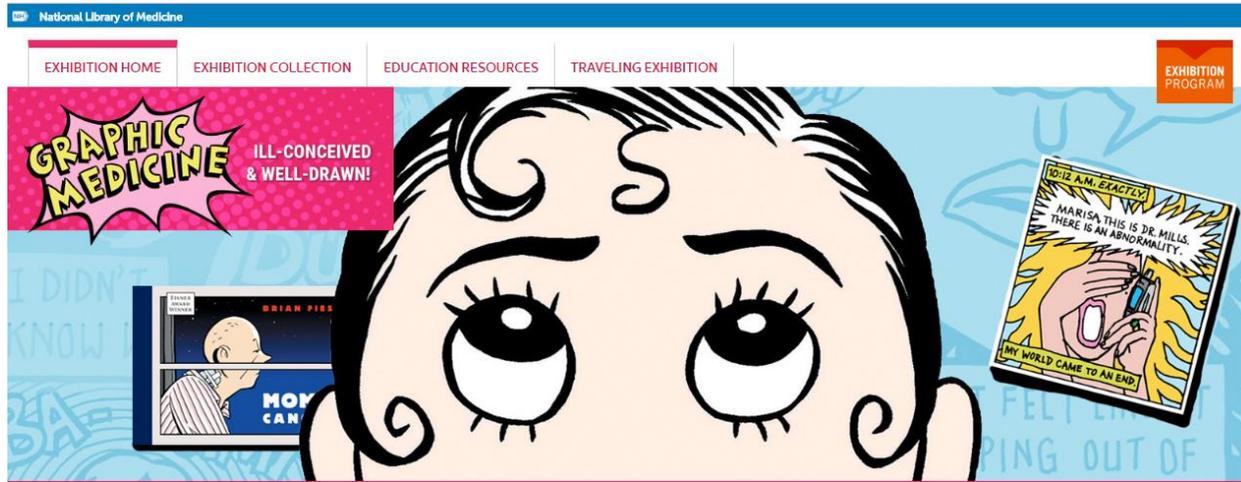


FIND EDUCATIONAL RESOURCES



BOOK THE TRAVELING EXHIBITION

Comics / Graphic Novels





COLLECTIONS & EXHIBITIONS

SEARCH

ARCHIVES &
MODERN
MANUSCRIPTS

*Executive Mansion,
August 22, 6.30 P.M.
dent has continued to take*



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PRINTS &
PHOTOGRAPHS



RARE BOOKS &
JOURNALS



NLM DIGITAL
COLLECTIONS



EXHIBITION
PROGRAM



FEATURED
COLLECTIONS



LECTURE SERIES



[NLM History of Medicine Division](#)

Careers



Health Topics



Home → Health Topics

Home

Topics

Health Occupations

Also called: Health careers

On this page

Basics

- Summary
- Start Here
- Latest News

Research

- Statistics and Research
- Journal Articles

Summary

Every day, around the clock, people, from newborns to the elderly, are in the United States. Many of these people are in doctors' offices, outpatient clinics, or hospitals.

To work in a health occupation, you need more than 4 years of college.

Bureau of Labor Statistics

Start Here

- Occupational Outlook
- Also in Spanish

Latest News

- Nurses Learn How to Get Patients to Say 'Yes' to Blood Thinners (08/17/2017, HealthDay)

HOME > CAREERS IN GENETICS



Careers

The study of genetics and genomics has become a major field of research in the 21st century.

Becoming a Genetic Counselor

Description: A genetic counselor is a healthcare professional who helps people understand their genetic risks and options for testing and treatment.

Source: National Human Genome Research Institute

Careers in Genetics

Description: A genetic counselor is a healthcare professional who helps people understand their genetic risks and options for testing and treatment.

Source: National Human Genome Research Institute

Genetic Testing

Description: Genetic testing is a type of medical test that looks for changes in your DNA that can increase your risk of certain diseases.

Source: National Human Genome Research Institute

Genetic Counseling

Description: Genetic counseling is a process that helps people understand their genetic risks and options for testing and treatment.

Source: National Human Genome Research Institute

Genomics

Description: Genomics is the study of the genome, which is the complete set of DNA in an organism.

Source: National Human Genome Research Institute

Genomics: Towards a Healthier Future

Description: A webcast presenting information about living with sickle cell anemia as one of the benefits of genomics.

Source: National Human Genome Research Institute



National Human Genome Research Institute
genome.gov

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Discover YOUR future in the world of Genomics

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Orientation

Interactive Videos

Career Profiles

Genomics Challenge

Resources

Career Tracker

genomiccareers

FIND YOUR



Career Tracker



Rate Your Favorites

Vote and record which career paths appeal to you most.

Explore



Interactive Videos

Ask the questions that will lead to your future in genomics.

Careers in Environmental Health, Chemistry, and Toxicology

- [Careers \(Society of Toxicology\)](#)
- [Careers and Internships: Opportunities for Students \(Environmental Protection Agency\)](#)
- [Enviro-Health Links: Education, Careers, and Outreach \(National Library of Medicine\)](#)
- [Getting Your Own Lab Coat. Careers for You in Science and Research \(National Institute of Environmental Health Sciences\)](#)
- [Outbreak at Watersedge: A Public Health Discovery Game \(University of Minnesota\) \[en español\]](#)
- [What is Public Health \(Association of Schools and Programs of Public Health\)](#)



NLM Traveling Exhibits



Changing *the face of Medicine*

HOME
RESOURCES

Careers Lesson Plans Higher Education

Is a Medical Career for you?
Undergraduate Education
Medical School
Residency & Fellowships
Practicing Medicine

* CAREERS
Think you might be a doctor?
world? Explore

NATIVE PEOPLES' CONCEPTS OF HEALTH AND ILLNESS

EXHIBITION INTERVIEWS TIMELINE RESOURCES

- * IS A MEDICAL CAREER FOR YOU?
 - What is a career in medicine like? Why do people choose a career in a medical environment? How expensive is this fascinating field.
- * UNDERGRADUATE EDUCATION
 - The first step to a promising career in medicine is to gain practical information on the types of courses to take in medical school, the broad range of medical careers or specialties, and the education.
- * MEDICAL SCHOOL
 - Once you are in medical school, you will be launched into elective opportunities in the fourth year, medical specialty training programs, and medically focused financial aid.
- * RESIDENCY AND FELLOWSHIPS
 - Once you complete medical school, you need to enter a residency depending on the medical specialty you choose. After additional medical training if you want to become a specialist, residencies and learn about fellowship opportunities, training resources and organizations available to help you along the way.
- * PRACTICING MEDICINE

CAREERS IN MEDICINE AND SCIENCES

- > High School
- > Higher Education
- > Post-Graduate / Medical Schools

LESSON PLANS & ADDITIONAL RESOURCES

ONLINE ACTIVITIES

SUGGESTED READINGS

HEALTH HEADLINES

High School
American Indian Science and Engineering Programs
<http://www.aises.org/what/programs/prec>
AISES offers a variety of programs for high school students and international science and engineering technology-based initiatives.

ASPIRINGDOCS.ORG® by the American College of Surgeons (AAMC)
<http://www.aspiringdocs.org>
ASPIRINGDOCS.ORG® is supported by the American College of Surgeons. The Resources section will help high school students and their parents navigate through the process of applying to medical school.

Association of American Indian Physicians
<http://aaip.site-ym.com/?page=NNAYI>
This annual program takes place in Washington, DC.

PHYSICIAN ASSISTANTS
Collaboration and Care

EXHIBITION PROGRAM

Exhibition: Part of a Team

HOME • EXHIBITION • EDUCATION • CREDITS

- Introduction
- Part of a Team
- Diversity Makes a Difference
- Collaboration with New Partners
- Respond to Community Needs
- Care Around the World

A PA student (right) from George Washington University observes a doctor performing an eye exam during a rotation, Washington, DC, ca. 1970s
Courtesy National Library of Medicine

PREVIOUS | NEXT (1/8)

PAAs are educated and trained to collaborate with other health professionals. During their coursework and clinical training, PAAs learn from and work with physicians, other PAAs, nurses, and additional health care professionals in a variety of settings.

American physician Eugene Stead created the profession's partner-based foundation. He modeled it after the collaborative relationship between Dr. Amos Johnson and his assistant, Buddy Treadwell, who had worked together in rural North Carolina since the 1940s. Dr. Stead opened the first academic PA program at Duke University in 1965, which educated students to

NNLM PNR

- Direct students and families to freely accessible health science resources
- Incorporate NLM/NIH educational resources to supplement curricula and reinforce learning
- Collaborate with other departments and the broader community
- Look to NNLM PNR for great resources, classes, webinars, funding and other opportunities

[NNLM PNR](https://nnlm.gov/pnr)

<https://nnlm.gov/pnr>

NIH NLM NNLM
National Network of Libraries of Medicine

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PNR HOME About PNR Members Funding Professional Development

PACIFIC NORTHWEST REGION

Pacific Northwest Region

The University of Washington Health Sciences Library serves as the regional Network Office for network member organizations throughout the National Network of Libraries of Medicine, Pacific Northwest Region (NNLM PNR) including the states of Alaska, Idaho, Montana, Oregon and Washington

Learn more about PNR

Pacific Northwest Region

BECAUSE LIBRARIES ARE PARTNERS IN A HEALTHY COMMUNITY

BECAUSE RARE DISEASES ARE MORE COMMON THAN YOU THINK

BECAUSE QUALITY INFORMATION HELPS YOU MAKE BETTER HEALTH DECISIONS

BECAUSE LIBRARIES CAN HELP YOU KEEP YOUR FAMILY HEALTHY

New Health Literacy Toolkit from Libraries Transform

BECAUSE LIBRARIES ARE PARTNERS IN A HEALTHY COMMUNITY

The NNLM PNR Wants You!

IS YOUR ORGANIZATION A MEMBER?

Join libraries, community organizations and data organizations that provide quality health information and research. Membership is free, and benefits include access to a network of colleagues, specialized training and funding opportunities.

Join the Network Today!

Regional Partners

Idaho State University
Best Practice in Decision-Making: Educational Training Program on Evidence-based Management

Thank You!



Carolyn Martin, MLS, AHIP
Consumer Health Coordinator
National Network of Libraries of Medicine
Pacific Northwest Region (NNLM PNR)
martinc4@uw.edu